

Abstract

Population survey and Predictive Modeling of Orchids in Eastern Jamaica

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A survey was conducted in eastern Jamaica: St. Andrew, St. Thomas, and Portland. The population distribution of 48 orchids species sampled in this area was recorded. The study also looked at the position of all the species that were observed, recording in which of five distinct tree zones each species was found. It was found that the more forested areas had a high number of different orchid species. Five orchids, *Encyclia fragrans*, *Epidendrum ramosum*, *Epidendrum verrucosum*, *Maxillaria purpurea*, and *Stelis ophioglossoides*, which were the most abundant species, were then modeled using two modeling techniques: MAXENT and Generalized Linear Model. The environmental data used for the modeling were obtained from different climate data sources. The climate data were taken from the world climate site, the meteorological service and data collected during sampling. Comparing the two modeling techniques it was found that MAXENT gave a better predictive distribution model compared to generalized linear models.

Keywords: Judeen Renae Meikle, Predictive Modeling, orchids, survey, predictive distribution, Jamaica, Portland, St. Thomas, St. Andrew, Generalized Linear Model, MAXENT, Kriging.